

## REMARKS

Claims 2-8, 11-19, 21-27, 32-37 and 41-43 are pending in the application.

Claims 2-8, 11-19 and 21-26 are objected to.

Claims 4 and 8 are rejected under 35 U.S.C. § 102(b).

Claims 2, 3, 5-7, 11-19, 21-27, 32-37 and 41 are rejected under 35 U.S.C. § 103(a).

Claim 8 is amended.

Claims 42 and 43 are added.

No new matter is added.

Applicants request reconsideration and allowance of the claims in light of the above amendments and following remarks.

### *Allowable Subject Matter*

Applicants note that the previously-indicated allowability of claims 2-8, 11-19, 21-27 and 32-37 has been withdrawn.

### *Claim Objections*

Claims 2-8, 11-19 and 21-26 are objected to because the claims “have independent claim numbers that are larger than some dependent claim numbers.” In making this objection, it appears as though the Office Action relies upon form paragraph 7.29.01 (M.P.E.P. § 608.01(m)). However, this form paragraph should only be used to point out minor informalities such as spelling errors, inconsistent terminology, etc. The amendment filed December 11, 2006 rewrote claims 8, 19 and 27 in independent form and amended claims 2, 4, 7, 11, 14, 17, 21, 23 and 26 to variously depend from 8, 19 and 27 in order to place the application in condition for allowance. Applicants respectfully submit that amending a claim to change its dependence from a preceding claim to a subsequent claim is entirely permissible, especially when done in response to an indication that certain claims would be allowable if rewritten in independent form. Absent any evidentiary basis that claims cannot be amended to depend from other claims with larger claim numbers, Applicants respectfully request withdrawal of the present objection to the claims.

***Claim Rejections – 35 U.S.C. § 102***

Claims 4 and 8 are rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 6,132,512 issued to Horie, et al. (hereinafter “Horie”). Applicants respectfully traverse this rejection.

Amended claim 8 recites, among other elements, “cooling lines arranged within a lower one of the circular plates; coolant inlets arranged outside the lower one of the circular plates, wherein each coolant inlet is connected to only one cooling line; coolant outlets arranged outside the lower one of the circular plates, wherein each coolant outlet is connected to only one cooling line; a first outer cooling line arranged outside the lower one of the circular plates connecting the coolant inlets; and a second outer cooling line arranged outside the lower one of the circular plates connecting the coolant outlets.” Support for this amendment can be found at, for example, FIGS. 2-4 and at page 6, lines 20-21 of the specification as originally filed. Applicants respectfully submit that Horie fails to teach or suggest at least these features as now recited in claim 8.

For example, the Office Action interprets the heating liquid medium passages B and B’ as reading on the claimed cooling lines; interprets the inlet ports 25b1, 25b2 and 25b3 (collectively identified herein by 25b) as reading on the claimed coolant inlets; interprets the outlet ports 25c1, 25c2 and 25c3 (collectively identified herein by 25c) as reading on the claimed coolant outlets; interprets section D1 of the heating liquid medium passage D as reading on the claimed first outer cooling line; and interprets section D2 of the heating liquid medium passage D as reading on the claimed second outer cooling line. As shown in FIGS. 10 and 12A-12C, Horie teaches wherein the inlet and outlet ports 25b and 25c are connected to various sections D1-D4 of the heating liquid medium passage D and wherein each section D1-D4 of the heating liquid medium passage D is connected to a plurality of heating liquid medium passages B and B’. Thus, assuming that Horie can be interpreted as suggested in the Office Action, Horie teaches wherein each inlet and outlet port 25b and 25c is connected to a plurality of heating liquid medium passages B and a to plurality of heating liquid medium passages B’.

Because each inlet and outlet port 25b and 25c is connected to a plurality of heating liquid medium passages B and B’, Applicants respectfully submit that Horie cannot teach wherein each inlet and outlet port 25b and 25c is connected to only one heating liquid medium passage B or B’. Accordingly, Applicants respectfully submit that Horie does not show the

identical invention now recited in claim 8, in as complete detail as is contained in claim 8 and, therefore, does not anticipate claim 8.

Claim 4 depends from claim 8 and, therefore, includes each element recited in claim 8. Accordingly, Applicants respectfully submit that Horie does not anticipate claim 4 for at least the reasons set forth above with respect to the rejection of claim 8.

### ***Claim Rejections – 35 U.S.C. § 103***

Claims 2, 3 and 5-7 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Horie. Applicants respectfully traverse this rejection.

Claim 2, 3 and 5-7 depend from claim 8 and, therefore, include each element recited in claim 8. As shown above, Horie does not anticipate claim 8. Accordingly, Applicants respectfully submit that Horie does not anticipate claim 4 for at least the reasons set forth above with respect to the rejection of claim 8.

Claims 11-19, 21-27, 32-37 and 41 are rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Horie in view of U.S. Patent No. 6,544,380 issued to Tomoyasu, et al (hereinafter “Tomoyasu”). Applicants respectfully traverse this rejection.

Rejecting claim 19, the Office Action appears to assert that the unnumbered item shown in FIG. 7 of Horie, immediately above item 17, reads on the claimed separating device and acknowledges that such an item is not “configured to separate the heater stage (3,4...) from the bottom wall (17...) and to reduce a volume of processing space within the process chamber (1...)” The Office Action then asserts that Tomoyasu teaches “a separating device (527...) ... disposed beneath a heater stage (526...), [wherein] a lower surface of the separating device (527...) [is] disposed in contact with the bottom wall (546...), [and wherein] the separating device (527...) [is] configured to separate the heater stage (526...) from the bottom wall (546...)....”

Applicants respectfully submit, however, that the “separating device 527” of Tomoyasu (i.e., a heat insulating wall) is not disposed beneath the “heater stage 526”, is not disposed in contact with the “bottom wall 546” (i.e., a support plate) and is not configured to separate the heater 526 from the support plate 546. As is clearly shown in FIG. 18, the heat insulating wall 527 is disposed laterally adjacent to the heater 526 and a wafer-mounted stage 525. As is also

clearly shown in FIG. 18, the heat insulating wall 527 is disposed in contact with a bottom plate 521. Because the heat insulating wall 527 of Tomoyasu is disposed laterally adjacent to the heater 526 and a wafer-mounted stage 525, and is also disposed in contact with a bottom plate 521, Applicants respectfully submit that Tomoyasu cannot teach wherein the heat insulating wall 527 is disposed beneath the heater 526, in contact with the support plate 546, and be configured to separate the heater 526 from the support plate 546. For at least these reasons, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to teach or suggest each and every element recited in claim 19 and, therefore, fails to render claim 19 obvious. See M.P.E.P. § 2143.03.

Even if Horie and Tomoyasu taught all that they are alleged to teach, the Office Action identifies no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify Horie using the heat insulating wall 527 of Tomoyasu in a manner that arrives at the structure recited in claim 19. Thus, even if Horie and Tomoyasu teach that all that all aspects of the invention recited in claim 19 were individually known in the art, a *prima facie* case of obviousness is not established until some objective reason to modify Horie using the heat insulating wall 527 of Tomoyasu is identified. Absent any objective reason to modify Horie using Tomoyasu, Applicants respectfully submit that the proposed combination of Horie in view of Tomoyasu fails to render claim 19 *prima facie* obvious. See M.P.E.P. § 2143.01(IV).

Rejecting claim 19, the Office Action acknowledges that Horie does not teach a process chamber cooling system configured to cool a bottom surface of the process chamber whereon the separating device is located. The Office Action then asserts that Tomoyasu teaches “a cooling system 521...) configured to cool a bottom surface of the process chamber (502...) whereon the separating device (527...) is located.”

Applicants respectfully submit, however, that the “a cooling system 521” of Tomoyasu (i.e., a bottom plate 521) disposed within a central region of the process chamber 502, spaced apart both vertically and laterally from the support plate 546 of the process chamber 502. See Tomoyasu, FIG. 18. Moreover, Tomoyasu is completely silent as to any teaching or suggestion that the cooling water chambers 522 formed in the bottom plate 521 are configured to cool the support plate 546, or any component of the process chamber 502, let alone any portion of the process chamber 502 that can reasonably construed as equivalent to the bottom surface of the

process chamber of Horie. For at least these additional reasons, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to teach or suggest each and every element recited in claim 19 and, therefore, fails to render claim 19 obvious. See M.P.E.P. § 2143.03.

Claims 11-18 depend from claim 19 and, therefore, include each and every element recited in claim 19. Accordingly, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to render claims 11-18 obvious for at least the reasons presented above with respect to the rejection of claim 19.

Further rejecting claim 11, the Office Action states that Horie teaches wherein “the heater stage (3,4...) [is] configured to contact an upper surface of the separating device (not numbered; Figure 7 – elements immediately above 17) at a lower position of the heater stage.”

Applicants respectfully submit however, that the unnumbered item shown in FIG. 7 of Horie, immediately above table 17 is not described in the specification of Horie. Moreover, FIG. 7 of Horie does not illustrate wherein the aforementioned unnumbered item is disposed directly vertically beneath the substrate holder 3. Accordingly, Horie cannot teach or even suggest wherein “the heater stage (3,4...) [is] configured to contact an upper surface of the separating device (not numbered...) at a lower position of the heater stage” as asserted in the Office Action. Tomoyasu does not contain any teaching that cure this deficiency of Horie. For at least these additional reasons, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to teach or suggest each and every element recited in claim 11 and, therefore, fails to render claim 11 obvious. See M.P.E.P. § 2143.03.

Further rejecting claim 12, the Office Action asserts that Horie teaches wherein “the separating device (not numbered; Figure 7 – elements immediately above 17) is configured to separate the heater stage (3,4...) and the process chamber (1...) by a uniform distance.”

As mentioned above, the unnumbered item shown in FIG. 7 of Horie, immediately above table 17 is not described in the specification of Horie. Moreover, FIG. 7 of Horie does not illustrate wherein the aforementioned unnumbered item is disposed directly vertically beneath the substrate holder 3. Accordingly, Horie cannot teach or even suggest wherein “the separating device (not numbered; Figure 7 – elements immediately above 17) is configured to separate the heater stage (3,4...) and the process chamber (1...) by a uniform distance” as asserted in the Office Action. Tomoyasu does not contain any teaching that cure this deficiency of Horie. For at

least these additional reasons, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to teach or suggest each and every element recited in claim 12 and, therefore, fails to render claim 12 obvious. See M.P.E.P. § 2143.03.

Claim 13 depends from claim 12 and, therefore, includes each and every element recited in claim 12. Accordingly, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to render claim 12 obvious for at least the reasons set forth above with respect to claim 12.

Further rejecting claim 16, the Office Action asserts that Tomoyasu teaches “wherein the separating device (527...) is ... configured to abut a lower surface of the heater stage (526...), [wherein] a substantial portion of the upper surface of the separating device (527...) [is] disposed directly beneath the lower surface of the heater stage (526...)”

As mentioned above, FIG. 18 of Tomoyasu clearly shows wherein the heat insulating wall 527 is disposed laterally adjacent to the heater 526. Because the heat insulating wall 527 of Tomoyasu is disposed laterally adjacent to the heater 526, Applicants respectfully submit that Tomoyasu cannot teach wherein the heat insulating wall 527 is “configured to abut a lower surface of the heater stage (526...), [wherein] a substantial portion of the upper surface of the separating device (527...) [is] disposed directly beneath the lower surface of the heater stage (526...)” as asserted in the Office Action. For at least these additional reasons, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to teach or suggest each and every element recited in claim 16 and, therefore, fails to render claim 16 obvious. See M.P.E.P. § 2143.03.

Claim 27 recites elements similar to those recited in claims 19, 12 and 13. Accordingly, arguments presented above with respect to the rejection of claims 19, 12 and 13 are similarly applicable with respect to the rejection of claim 27.

Claims 21-26, 32-37 and 41 depend from claim 27 and, therefore, include each and every element recited in claim 27. Accordingly, Applicants respectfully submit that the combination of Horie in view of Tomoyasu fails to render claims 21-26, 32-37 and 41 obvious for at least the reasons presented above with respect to the rejection of claim 27.

Further, claim 34 recites elements similar to those recited in claim 16. Accordingly, arguments presented above with respect to the rejection of claim 16 is similarly applicable with respect to the rejection of claim 34.

Further, claim 37 recites elements similar to those recited in claim 19. Accordingly, arguments presented above with respect to the rejection of claim 37 is similarly applicable with respect to the rejection of claim 19.

### *New Claims*

Support for new claims 42 and 43 can be found at, for example, FIG. 1 of the specification as originally filed.

### **CONCLUSION**

For the foregoing reasons, reconsideration and allowance of claims 2-8, 11-19, 21-27, 32-37 and 41-43 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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